

What is claimed is:

1. A mobile ad hoc network device, comprising an adaptation unit which selectively performs one of a first transmission mode in which a data packet is transferred without reconfiguration of the transmitted data packet, and a second transmission mode in which the transmitted data packet is transferred after reconfiguration thereof, according to specific information included in a header of the transmitted data packet.

2. The device as claimed in claim 1, wherein the adaptation unit selectively performs one of a first receiving mode in which a received data packet is not restored when the received data packet is transferred in the first transmission mode and a second receiving mode in which the received data packet is restored to a data packet state before being subjected to the reconfiguration, when the received data packet is transferred in the second transmission mode.

3. The device as claimed in claim 1, wherein, in the second transmission mode, the adaptation unit removes header information of the transmitted data packet to create new packet information and adds additional data thereto.

4. The device as claimed in claim 3, wherein the new packet information comprises a destination service access point (DSAP), a total

length of IP(Internet Protocol), a number of IP headers, UDP(User Datagram Protocol) checksums, and a number of UDP checksums.

5. The device as claimed in claim 4, wherein the new packet information comprises four bits of the number of UDP checksums, two bytes of the total length of IP, and two bytes of the UDP checksums.

6. The device as claimed in claim 1, wherein the transmitted data packet comprises an IP packet.

7. The device as claimed in claim 1, wherein the specific information comprises a field of Type of Service included in the header of the transmitted data packet.

8. A method of at least one of transmitting and receiving a data packet in a mobile ad hoc network, the method comprising transmitting of the data packet including selectively performing one of a first transmission mode in which the data packet is transferred without reconfiguration thereof, and a second transmission mode in which the data packet is transferred after reconfiguration thereof, according to specific information included in a header of the data packet.

9. The method as claimed in claim 8, further comprising receiving of the data packet including selectively performing one of a first receiving mode in which the data packet is not restored when the data packet is

transferred through the first transmission mode, and a second receiving mode in which the data packet is restored to a data packet state before being subjected to reconfiguration when the data packet is transferred through the second transmission mode.

10. The method as claimed in claim 8, wherein the reconfiguration of the data packet comprises removing header information of the data packet to create new packet information and adding additional data thereto.

11. The method as claimed in claim 10, wherein the new packet information comprises a destination service access point (DSAP), a total length of IP, a number of IP headers, UDP checksums, and a number of UDP checksums.

12. The method as claimed in claim 11, wherein the new packet information comprises four bits of the number of UDP checksums, two bytes of the total length of IP, and two bytes of the UDP checksums.

13. The method as claimed in claim 8, wherein the data packet comprises an IP packet.

14. The method as claimed in claim 8, wherein the specific information comprises a field of Type of Service included in the header of the data packet.

15. The device as claimed in claim 2, wherein in the second transmission mode, the adaptation unit removes header information of the transmitted data packet to create new packet information and adds additional data thereto.

16. The device as claimed in claim 15, wherein in the second receiving mode, the adaptation unit restores data included in the received data packet to respective data packets before being subjected to reconfiguration.

17. The device as claimed in claim 16, wherein in the second receiving mode, the adaptation unit combines the data of the respective data packets with corresponding header information.

18. The device as claimed in claim 4, wherein the new packet information comprises six bytes.

19. A mobile ad hoc network device, comprising an adaptation unit which selectively performs one of a first receiving mode in which a data packet is received without restoration and a second receiving mode in which the received data packet is restored to a data packet state before being subjected to reconfiguration, according to whether the data packet is reconfigured based on specific information included in a header of the data packet.

20. The device as claimed in claim 19, wherein the reconfiguration of the data packet comprises removing header information of the data packet to create new packet information and adding additional data thereto.

21. A network device comprising at least one of a data transferring unit and a data receiving unit which selectively reconfigures a data packet to be transferred according to specific information included in a header of the data packet, wherein said at least one of the data transferring unit and the receiving unit reconfigures the data packet by removing header information of the data packet to create new packet information and adding additional data thereto.

22. The device as claimed in claim 21, wherein in response to the data packet received thereto being the reconfigured data packet, said at least one of the transferring unit and the receiving unit restores the reconfigured data packet to an original data packet format.

23. The device as claimed in claim 21, wherein the new packet information includes a destination service access point (DSAP), a total length of IP, a number of IP headers, user datagram protocol (UDP) checksums, and a number of UDP checksums.

24. The device as claimed in claim 21, wherein the data packet comprises audio/video (A/V) streaming data.

25. The device as claimed in claim 21, wherein said at least one of the data transferring unit and the receiving unit comprises an adaptation layer which selectively reconfigures the data packet to increase a transmission efficiency and restores the reconfigured data packet to an original data packet format.

26. A method of at least one of transmitting and receiving a data packet in a mobile ad hoc network, the method comprising:

selectively reconfiguring the data packet according to specific information included in a header of the data packet, before transmitting the data packet; and

restoring the data packet to a data packet state before being subjected to the reconfiguration, if the received data packet has been reconfigured.

27. The method as claimed in claim 26, wherein the reconfiguration of the data packet comprises removing header information of the data packet to create new packet information and adding additional data thereto.

28. The method as claimed in claim 27, wherein the restoring of the data packet comprises restoring data included in the received data packet to respective data packets before being subjected to reconfiguration.

29. The method as claimed in claim 28, wherein the restoring of the data packet further comprises combining data of the respective data packets with corresponding header information.